

## Group MOLYTIDÆ.

**Lyperobius læviusculus**, sp. nov.

Pitchy-black, sometimes rufo-piceous; hind-body sparingly clothed with depressed, testaceous, setiform scales. *Rostrum* nearly plane above, medially narrowed, rather finely punctured. *Head* broader than the rostrum, with a shallow median groove before the eyes and some transversal linear impressions behind. *Eyes* more rotundate than those of the typical species. *Scrobes* deep in front, but quite indefinite behind. *Scape* thickened apically, attaining the back of the eye. *Funiculus* sparsely pilose, second joint only slightly shorter than the first; joints 3-7 moniliform. *Club* triarticulate, rather elongate, finely pubescent. *Thorax* somewhat uneven, without central carina, finely punctate. *Elytra* oblong-oval, humeral angles narrowed and rounded, rather acuminate posteriorly; each elytron indistinctly tricostate, suture slightly elevated, interstices nearly smooth, with only feebly impressed series of punctures. *Legs* rather elongate; femora clavate; tibiæ flexuous, without the usual inner armature just above the extremity; the anterior pair with pale erect setæ along the inside. *Underside* nearly smooth, almost nude. *Prosternum* a little emarginate. Length (rost. included), 10-12 lines; breadth,  $3\frac{1}{2}$ -5 lines.

Auckland Islands. Captain Bollans, of the Government steamer "Hinemoa," found two specimens on Adam's Island. The larger one has very indefinite elytral costæ. One specimen retained in Captain Broun's collection, the other placed in the Canterbury Museum.

ART. XVI.—*Additions to the Diptera Fauna of New Zealand.*

By Captain F. W. HUTTON, F.R.S.

[Read before the Philosophical Institute of Canterbury, 6th November, 1901.]

## Family PSYCHODIDÆ.

Genus PSYCHODA, Latreille, 1796.

Wings pointed; two simple veins between the forked veins, the second of these two ending at or before the apex. Proboscis compressed, the maxillæ nearly as long.

**Psychoda phalænoides**, Linnæus.

Dark-brown, with pale-grey hairs on the head and abdomen and brown hairs on the mesonotum. Antennæ

with black bands. Wings without spots, pellucid, with pale-grey hairs on the veins; veins brownish. Halteres white. Legs dark-brown, with pale-grey hairs. Length,  $1\frac{1}{2}$  mm.; wing, 2 mm.

*Hab.* Christchurch (F. W. H.), common; Auckland (Suter).

Introduced from Europe.

#### Genus PERICOMA, Walker, 1856.

Wings pointed or rounded; two simple veins between the forked veins, the second of these two ending distinctly behind the tip of the wing. Proboscis with broad liplets.

#### *Pericoma funebris*, sp. nov.

Head and thorax very dark-brown; thorax nearly bare, but some white hairs at the root of the wing. Abdomen paler brown, covered with reddish-brown hairs. Legs brown, with some white hairs near the tips of the tibiæ. Wings broad, rounded at the apex, densely covered with dark-brown hairs, passing into reddish-brown a little below the tip. No spots. The fork of the second longitudinal vein lies rather inside that of the fourth longitudinal. The anterior of the two simple veins reaches the margin a little before the apex of the wing, while the second one is distinctly behind it. Length,  $3\frac{1}{2}$  mm.; wing, 4 mm.

*Hab.* Wellington (G. V. Hudson).

#### *Pericoma variegata*, sp. nov.

Head and anterior portion of thorax velvety black, the posterior portion foxy-red. Abdomen brown. Legs brown, the tarsi blackish. Wings broad and rounded at the tip. Dark-brown, with spots and streaks of foxy-red and some white hairs sprinkled through the brown ones. Neuration as in the last species. Length, 4 mm.; wing,  $5\frac{1}{4}$  mm.

*Hab.* Wellington (G. V. Hudson).

### Family CHIRONOMIDÆ.

#### KEY TO THE GENERA.

Only one basal cell.

Wings bare.

Front metatarsi longer than the tibiæ .. *Chironomus*.

Front metatarsi shorter than the tibiæ.

Posterior branch of the fifth longitudinal vein straight .. .. *Orthocladius*.

Posterior branch of the fifth longitudinal vein sinuous .. .. *Camptocladius*.

Wings hairy.

Front metatarsi longer than the tibiæ .. *Tanytarsus*.

Two basal cells .. .. *Tanypus*.

Genus *CHIRONOMUS*, Meigen, 1803.

“Antennæ 14-jointed in the male, 7-jointed in the female. Thorax usually with three stripes. Wings naked. Costal vein not extending beyond the tip of the third longitudinal. Fore metatarsus longer than, or occasionally as long as, the tibia. Anal joint of the male abdomen longer than broad, the forceps generally filiform or falcate” (Skuse).

## KEY TO THE SPECIES.

Thorax pale, with dark stripes.

Wings without spots.

Tip of submarginal cell acute .. .. *C. zealandic*

Tip of submarginal cell rounded .. .. *C. lentus*.

Wings with two small black spots .. .. *C. opinus*.

Thorax blackish.

Third longitudinal vein slightly curved near the tip .. *C. pavidus*.

Third longitudinal strongly curved near the tip .. *C. ignavus*.

***Chironomus zealandicus*.**

*C. zealandicus*, Hudson, Man. N.Z. Ent., p. 43, pl. iv., fig. 2 (1892).

First joint of the antennæ pale-yellow, the rest brown, with brown plumes in the male. Clypeus and palpi dark-brown. Thorax pale-yellow, with three longitudinal dark bands, either fuscous or dark-fulvous. The lateral bands start near the middle and gradually narrow to the posterior margin, the central one beginning at the collar and ending near the middle, but continued as a narrow pale-brown median line to the posterior margin. Pleuræ with an oval brown spot under the wing. Scutellum pale-yellow. Metanotum brown. Abdomen brown, with long yellow hairs; each segment bordered posteriorly with pale-yellowish, except the second, which is almost entirely brown. Legs pale-yellow, each joint generally minutely tipped with brown; the last joints of the tarsi slightly fuscous. Fore metatarsus about one and a third times the length of the tibia; intermediate tibia less than twice the length of its metatarsus; each joint of the tarsi shorter than the ones before it. Wings hyaline, glabrous; the costa, cross-vein, and internal portion of the fourth longitudinal brown. Auxiliary vein joining the costa some distance outside of the cross-vein. Second longitudinal indistinct and close to the first. Third longitudinal meeting the costa a little before the apex of the wing; submarginal cell acute at the tip. Fourth longitudinal reaching the margin of the wing a little below the apex. Length, 6–8 mm.; wing, 5½ mm.

*Hab.* Wellington (Hudson); Christchurch (F. W. H.); Auckland (Suter).

This species is allied to *C. nepeanensis*, Skuse, but

differs from it in the colour of the bands on the thorax and in the fore tibiæ not being brown at the base. The Christchurch specimens have the thorax much darker and less distinctly marked than those from Wellington and Auckland, and might, perhaps, be distinguished as a distinct species.

**Chironomus lentus**, sp. nov.

*Female*.—Antennæ tawny, palpi dark-brown, clypeus black. Thorax tawny, with three brown longitudinal streaks each bearing a series of tawny hairs; of these the lateral streaks curve downwards on the sides of the thorax, and the central stripe is narrow. Scutellum tawny. Metanotum dark-brown. Abdomen brown, with short yellow hairs. Legs pale-tawny, the joints fuscous. Fore metatarsi about one and a half times the length of the tibiæ. Intermediate tibiæ not much longer than the metatarsi; each joint of the tarsi shorter than the one before it. Halteres pale-tawny. Wings hyaline, the veins pale-tawny. No spots. Auxiliary vein joining the costa some distance outside the cross-vein. Second longitudinal indistinct, close to the first. Third longitudinal vein meeting the costa at the apex of the wing; submarginal cell rounded at the tip. Fourth longitudinal reaching the margin considerably below the apex. Fork of the fifth longitudinal a little outside the cross-vein. Length, 4 mm.; wing,  $3\frac{1}{4}$  mm.

*Hab.* Christchurch (F. W. H.).

**Chironomus opimus**, sp. nov.

*Male*.—Antennæ pale-brown; clypeus brown. Thorax yellowish-green, with a pair of median dark-brown lines close together, bordered outside with tawny; also on the sides, in front of the wings, a kidney-shaped dark-brown spot bordered above with tawny. Scutellum pale-green. Metanotum tawny, broadly tipped with dark-brown. Abdomen bright-green, with yellow hairs; the sixth and seventh segments slightly fuscous. Legs pale-tawny; the distal end of the fore femora, a band in the middle of the intermediate and hind femora (as well as their apices), a broad band at the proximal ends of the fore tibiæ, and narrow bands in the same place of the intermediate and hind tibiæ, as well as the three last joints of the fore tarsi, brown. The fore metatarsus is nearly one and a half times the length of the tibia. Halteres green. Wings with two small black spots, one on the cross-vein, the other at the apex of the fourth posterior cell. The membrane bare, but short hairs on the fourth longitudinal vein and on the anterior branch of the fifth. Third longitudinal much curved backwards near the tip, reaching the costa at the apex of the wing; the submarginal cell rounded at the tip. Auxiliary vein joining the costa opposite the cross-vein. Fourth longi-

tudinal reaches the margin not far from the tip of the third longitudinal. Fork of the fifth longitudinal considerably outside the cross-vein. Length, 4 mm.; wing, 3 mm.

*Female*.—Thorax fulvous, with three rows of yellow hairs and a brown patch on the pleura before the wing. Abdomen and halteres pale-brown. The rest as in the male.

*Hab.* Christchurch (F. W. H.); Auckland (Suter).

#### **Chironomus pavidus**, sp. nov.

*Male*.—Head blackish-brown; the antennæ brown, and with brown plumes. Thorax blackish-brown, with two longitudinal rows of scattered tawny hairs. Abdomen dark-brown, with yellowish hairs. Legs pale-tawny, the last joint of the tarsi fuscous; the coxæ brown; the fore metatarsi about one and a half times the length of the tibiæ. Halteres pale-yellow. Wings and veins bare; veins almost colourless; the membrane with pale iridescent spots or patches, one in front of the cross-vein, two in the first posterior cell, another in the fork of the fifth longitudinal vein, and another in the second posterior cell. These spots are not seen by transmitted light. The third longitudinal vein meets the costa a little before the tip; it is not much curved; submarginal cell acute at the tip. Fourth longitudinal ends below the tip and inside the third. Fork of the fifth a little outside the cross-vein. Length,  $4\frac{1}{2}$  mm.; wing, 3 mm.

*Female*.—Wings iridescent, but without spots.

*Hab.* Christchurch (F. W. H.).

This species differs from *C. nubifer*, Skuse, in the proportions of the fore metatarsi and tibiæ, and probably in colours also.

#### **Chironomus ignavus**, sp. nov.

*Male and Female*.—Dark-brown, scutellum paler, abdomen with pale hairs. Legs pale-tawny, the tarsi fuscous. Meso- and meta-thorax with a raised central ridge. Fore metatarsus about one and a quarter times the length of the tibia. Intermediate metatarsus nearly as long as the tibia. Halteres pale-brown, with dark tips. Wings with a slight tawny tinge, unspotted; veins pale-tawny. Third longitudinal vein much curved backward, meeting the costa near the apex of the wing; submarginal cell rounded at the tip. Tip of the fourth longitudinal further from the apex of the wing than the third. Fork of the fifth longitudinal slightly outside the cross-vein. Length,  $4-4\frac{1}{2}$  mm.; wing,  $3-3\frac{1}{2}$  mm.

*Hab.* Christchurch (F. W. H.).

Genus ORTHOCLADIUS, V. d. Wulp, 1874.

“Antennæ 14-jointed in the male, 7-jointed in the female. Thorax with three stripes. Wings naked. Third longi-

tudinal vein straight or slightly curved, going nearly to the apex of the wing. Costal vein sometimes extending a little beyond the tip of the third longitudinal. Posterior branch of the fifth longitudinal straight or a little bent. Legs unicoloured, or only darker at the articulations. Fore metatarsus considerably shorter than the tibia. Forceps of the male slender" (Skuse).

In the New Zealand species, here described, the thorax is not striped.

**Orthocladus publicus**, sp. nov.

*Male*.—Uniform dull-brown, the legs rather paler. The fore tibia not much longer than the metatarsus. Abdomen and legs with distant hairs. Halteres brown. Wings pale-brown, unspotted, the veins brown. The third longitudinal vein nearly straight and joining the costa considerably before the tip of the wing, the costa not produced beyond it. Fork of the fifth longitudinal lies outside the cross-vein. The fourth longitudinal ends at the apex of the wing. First longitudinal ends nearer to the cross-vein than to the tip of the third longitudinal. Length,  $1\frac{3}{4}$  mm.; wing, 2 mm.

*Female*.—The long hairs on the legs are absent.

*Hab.* Christchurch (F. W. H.).

**Orthocladus cingulatus**, sp. nov.

*Male*.—Dark, shining, brown; the sides of the thorax, distal ends of the coxæ, halteres, and anterior portions of the second, as well as of the fourth and fifth abdominal segments, pale-yellow. Legs pale-brown, with short close hairs. Abdomen with a few distant hairs. Fore tibia rather more than one and a half times the length of the metatarsus. Wings hyaline, the veins brown. The first longitudinal vein reaches the costa about halfway between the cross-vein and the tip of the third longitudinal. The third longitudinal reaches the margin a little before the apex of the wing, and the costa is produced slightly beyond it. The fourth longitudinal ends a little below the apex of the wing. The fork of the fifth longitudinal is nearly on a line with the cross-vein. Length, 3 mm.; wing,  $2\frac{1}{2}$  mm.

*Hab.* Christchurch (F. W. H.).

Genus CAMPTOCLADIUS, V. d. Wulp, 1874.

Antennæ 14-jointed in the male, 7-jointed in the female. Wings naked. Third longitudinal vein bent upwards, sometimes short and terminating considerably before the apex of the wing, or running for some distance close along the anterior margin; consequently the first posterior cell is very

broad. Posterior branch of the fifth longitudinal sinuated. Legs unicoloured, usually black. Fore metatarsus considerably shorter than the tibia. Anal joint in the male short and broad; the forceps broad, white, or with white hairs.

**Camptocladus vernus**, sp. nov.

Blackish-brown, the tibiæ and tarsi brown. Fore tibia about twice the length of the metatarsus. Abdomen and legs hairy. Wings pale-greyish, the veins fulvous, except the costa and the first and third longitudinals, which are blackish. Third longitudinal running near the anterior margin of the wing and ending at a considerable distance before the apex, the costa being produced beyond the tip of the third longitudinal. Fourth longitudinal ending at the apex of the wing, or very slightly below it. The fork of the fifth longitudinal lies outside the cross-vein; the posterior branch is sharply bent backwards to a right angle with the margin of the wing. Length,  $2\frac{1}{4}$  mm.; wing, 2 mm.

*Hab.* Christchurch (F. W. H.).

A common species, and about the first to appear in spring (October).

Genus TANYTARSUS, V. d. Wulp, 1874.

“Antennæ 14-jointed in the male and 7-jointed in the female. Wings hairy. Third longitudinal vein straight, or nearly straight, running to the apex of the wing. Posterior branch of the fifth longitudinal straight, or only slightly bent backwards. Fore metatarsus longer than the tibia. Forceps of the male slender” (Skuse).

**Tanytarsus vespertinus**, sp. nov.

*Male*.—Head black, antennæ and palpi brown. Thorax tawny, with three dark-brown stripes. Scutellum and metathorax brown. Abdomen greenish-brown. Legs tawny; the fore metatarsus nearly one and a half times the tibia. Halteres yellowish-white. Wings with fine hairs, unspotted. The third longitudinal joins the costa at a very acute angle some distance before the apex of the wing, and the costa is not prolonged beyond it. The fourth longitudinal ends very slightly below the apex of the wing. The fork of the fifth longitudinal lies slightly outside the cross-vein. Length, 4 mm.; wing, 3 mm.

*Female*.—Yellowish-green, the bands on the thorax brownish-yellow. Legs pale-yellowish. The rest like the male.

*Hab.* Christchurch (F. W. H.).

## Genus TANYPUS, Meigen, 1803.

“Antennæ 15-jointed. Wings pubescent. Marginal cross-vein and second longitudinal distinct. Fork of the fifth longitudinal situated at the base of the posterior cross-vein” (Skuse).

## KEY TO THE SPECIES.

Legs unicoloured, except at the articulations.

Metanotum dark-brown .. .. . *T. languidus*.

Metanotum fulvous .. .. . *T. debilis*.

Tibiæ and metatarsi with a dark band in the middle .. *T. malus*.

**Tanypus languidus**, sp. nov.

*Male*.—Antennæ pale-brown, with brown plumes; eyes and face dark-brown. Thorax pale-yellowish, with a double central brown stripe reaching halfway, and a lateral stripe on each side, commencing a little before the end of the median pair; posterior margin of the mesonotum, and a median line from the posterior margin towards the central stripes dark-brown; scutellum pale-yellow; metanotum dark-brown. Abdomen brown, each segment with a square pale-yellow spot on each side, except on the last two segments. Femora pale-yellow, broadly tipped with brown; tibiæ and tarsi tawny. Fore metatarsus about one-half the length of the tibia. Halteres white. Wings hairy, yellowish, with brown spots on all three cross-veins, at the tips of the longitudinal veins, and two each in the first posterior and anal cells; veins yellow. Auxiliary vein rather indistinct, not reaching the costa. Third longitudinal much curved, meeting the costa at the apex of the wing. Posterior branch of the fifth longitudinal meeting the margin of the wing at right angles. Marginal cross-vein joining the costa. Length, 5 mm.; wing, 4 mm.

*Female*.—Abdomen brown, the anterior portion of each segment pale. Legs pale yellowish-tawny, the tips of the joints brown. Wings broader than in the male, and the marginal cross-vein joining the tip of the first longitudinal. Length,  $4\frac{1}{2}$  mm.; wing, 4 mm.

*Hab.* Christchurch (F. W. H.).

**Tanypus debilis**, sp. nov.

*Male*.—Head and antennæ pale-tawny. Thorax pale greenish-yellow, with a double central brown stripe ending halfway, and a brown spot on each side opposite the termination of the stripe. Scutellum pale-green; metanotum pale-tawny, with four brown spots. Abdomen green, the anterior half of each segment darker than the posterior half; the hairs white. Legs pale-tawny, the articulations brown. Fore metatarsus about two-thirds the length of the tibia. Wings hairy; the anal angle white, the rest brownish, with bluish iridescent spots (in reflected light) in the first, second,



and third posterior cells and in the anal cell, these spots being more or less bordered with brown; a dark-brown mark on the cross-veins. Auxiliary vein indistinct. Third longitudinal considerably curved near the tip, meeting the costa a little before the apex of the wing. Marginal cross-vein joining the first longitudinal below its tip. Both branches of the fifth longitudinal strong, the posterior meeting the margin of the wing at right angles. Length, 3 mm.; wing,  $4\frac{1}{2}$  mm.

*Female*.—Abdomen greenish-brown. Wings without iridescent spots. Brown spots on the cross-veins, at the tips of the longitudinals, and near the apices of the first posterior and anal cells.

*Hab.* Christchurch (F. W. H.).

### **Tanypus malus**, sp. nov.

*Male*.—Head brown; the antennæ tawny, with pale-brown plumes. Thorax tawny, with two brown median stripes, and a spot on each side, the median bands nearly broken by a tawny curved streak. Scutellum dark-tawny. Metanotum dark-brown. First five segments of the abdomen white, with brown marks on the anterior portion; the rest brown. Legs almost white, with dark articulations and dark median bands on the tibiæ and metatarsi. Fore metatarsus about two-thirds the length of the tibia. Halteres white. Wings hairy, white, with many small dark spots. Third longitudinal not much curved, joining the costa considerably before the apex of the wing. Marginal cross-vein very short, joining the costa. Fourth longitudinal rather weak. Posterior branch of the fifth longitudinal meeting the margin of the wing at right angles. Length, 4 mm.; wing, 3 mm.

*Female*.—Abdomen brown, banded dark and pale. Length, 3 mm.; wing, 4 mm.

*Hab.* Christchurch (F. W. H.).

### Family TIPULIDÆ (brevipalpi).

#### Genus RHYPHOLOPHUS, Kolenati, 1863.

“Two submarginal cells; four posterior cells; discal cell present or absent. Wings pubescent on the whole surface. The second longitudinal vein originates at a more or less acute angle before the middle of the anterior margin; the subcostal cross-vein is at a considerable distance (two or three lengths of the great cross-vein) anterior to the tip of the auxiliary vein. Antennæ 16-jointed. Tibiæ without spurs at the tip; unguis smooth on the under-side; empodia distinct” (Osten-Sacken).

This genus differs from *Molophilus* and *Erioptera* in having hairs all over the surface of the wing, instead of on the veins only.

**Rhypholophus insulsus**, sp. nov.

Pale-tawny, the joints of the antennæ dark-brown at their bases. Palpi brown. An irregular brown dorsal stripe on the abdomen. The last three or four joints of the tarsi fuscous. Halteres pale-tawny. Wings tinged with tawny, the veins darker; all the cross-veins slightly bordered with brown, and a small brown spot at the origin of the second longitudinal vein. No discal cell. Submarginal cross-vein opposite the tip of the auxiliary vein. Third posterior cell with a short petiole. Seventh longitudinal sinuated. Forceps of the male double; the outer pair tawny; the inner pair slender and dark-brown. Length, ♂ 7 mm., ♀ 5–6 mm.; of antennæ, ♂ 9 mm., ♀ 3½ mm.; wing, ♂ 9 mm., ♀ 8 mm.

*Hab.* Wellington (G. V. Hudson).

**Rhypholophus fatuus**, sp. nov.

*Female.*—Dark-brown, the legs nearly black, with two pale rings on the femora, one at the tip the other beyond the middle. Wings rather smoky, darker towards the tips; a dark fascia from the tip of the auxiliary vein to the chief cross-vein; a dark spot on the upper margin of the first basal cell and another at the apex of the second basal cell. Neuration as in the last species.

*Hab.* Wellington (G. V. Hudson).

I have only one specimen, the antennæ of which have sixteen joints, those of the flagellum with whorls of short hairs.

Genus **OPIFEX**, gen. nov.

Two submarginal cells, of which the second is nearly twice as long as the first; four posterior cells; no discal cell. Wings hairy along the veins only. Second longitudinal originates at a very acute angle before the middle of the anterior margin. No subcostal nor marginal cross-veins. Anterior branch of the fourth longitudinal forked, the posterior branch simple. Seventh longitudinal short, straight, not reaching the margin. Tibiæ without spurs at their tips; empodia indistinct or absent. Antennæ 16-jointed. Rostrum short. Proboscis elongated, much longer than the head, cylindrical, rather swollen at the apex. Palpi long, but shorter than the proboscis. Legs short.

This genus differs from *Erioptera* not only in the long proboscis and short legs, but also in the absence of a marginal cross-vein, and in fourth posterior cell being pointed at its base.

**Opifex fuscus**, sp. nov.

Uniform brown; proboscis, palpi, antennæ, and legs lighter than the body. Wings brown. Second posterior cell

with a long petiole; the posterior cross-vein not in a line with the chief cross-vein. Proboscis about four times the length of the head; palpi about two and a half times its length; the last joint swollen, shorter than the penultimate. Antennæ rather shorter than the proboscis. Length, 5 mm.; wing, 5 mm.

*Hab.* Wellington (G. V. Hudson).

The short legs, long proboscis, and hairy veins make this species look very like a mosquito.

Genus TROCHOBOLA, Osten-Sacken, 1868.

### **Trochobola dohrni.**

*T. dohrni*, Osten-Sacken, Berlin, ent. Zeitschr., xxxix., p. 264 (1894). *T. ampla*, Hutton, Trans. N.Z. Inst., vol. xxxii., p. 36 (1900). *T. fumipennis*, Hudson, Man. N.Z. Ent., p. 48 (1892), no description.

I unfortunately overlooked this species and the next when writing my paper on the *Tipulidæ*. The following is Osten-Sacken's description:—

“Head, rostrum, palpi, and antennæ brown, the latter sometimes reddish on the second joint. The proximal part of the flagellum is almost moniliform, the joints 1 to 4 somewhat urn-shaped, with a little brush of microscopic hairs on one side and some scattered longer hairs on the other; the rest of the flagellum has more elongate joints, with scattered short hairs. Thorax brown or reddish-brown, with four dark-brown stripes and a covering of yellowish sericeous pollen. Abdomen reddish-brown, with somewhat darker lateral margins. Legs rather long, yellowish-brown, with a distinct dark-brown space just before the tip of the femora, and a narrower yellow ring immediately proximal of the brown; knees paler. Halteres with a brown knob. Wings nearly the same as in *annulata* and *argus*, but the proximal two-thirds of the second basal cell are filled out, or nearly so, with brown. There is a large brown spot in the region of the stigma, between the third vein and the costa; within it there is a small yellowish spot on the costa, a little beyond the tip of the auxiliary vein, and a round hyaline spot in the proximal end of the submarginal cell; along the apex the distal end of the submarginal and first posterior cells has a dark-brown irregular margin. Male forceps (very much shrunken in drying) has apparently the same structure as that of the European *T. annulata*. Length, from 12 mm. to 16 mm.; length of the wing, from 13 mm. to 23 mm.

“*Hab.* Five males and one female from Professor Hutton, in Christchurch, and Helms, in Greymouth. The first speci-

men I received was from Dr. C. A. Dohrn, and I believe it came from the North Island."

### **Trochobola venusta.**

*T. venusta*, Osten-Sacken, Berlin, ent. Zeitschr., xxxiv., p. 265 (1894).

"Body brownish; the usual thoracic stripes brown, coalescent, leaving only a paler space in the humeral region; antennæ brownish-yellow, scapus brown; halteres with a brown knob. Femora brownish-yellow, with a brown ring before the tip; tibiæ and tarsi yellowish-brown. Wings: The ocellar spots which distinguish the other *Trochobola* exist here too, but are rendered less distinct by the numerous brown irregular spots which fill their intervals. The basal portion of the wing is densely filled with little brown spots, assuming a more or less irregularly ocellar shape, with still smaller brown spots in their centre; the very distinct cross-vein between the sixth and seventh longitudinal veins is clouded with brown; in the middle of the wing a kind of cross-band is formed by larger and darker brown spots, one on the anterior margin, surrounding the origin of the prefurca, the other on the posterior margin, near the end of the sixth vein; the space between the larger spots is filled with irregular smaller ones; upon this dark cross-band follows a subhyaline one, within which the brown spots are more scarce; the distal third of the wing is darker again, containing three large brown spots mottled with paler dots, and leaving an irregular, subtriangular, subhyaline space between them. Length, 9 mm.; wing, 11 mm."

*Hab.* Greymouth (Helms).

"Easily recognisable by the colouration of the wings." It is evidently related to my *T. picta*, but I think that it is a distinct species, especially as no mention is made of the irregularly shaped discal cell which distinguishes *T. picta*. Baron Osten-Sacken speaks of the wings in both these species as being ocellated, while in my paper I say that they are not ocellated. The explanation of the difference is that I confine the term "ocellated" to a distinct dark ring with a spot in the centre, while Osten-Sacken gives it a wider meaning. In the figure of the wing of *T. picta*\* I do not recognise my own drawing.

### **Limnophila skusei**, sp. nov.

Pale yellowish-brown. Proboscis dark-brown; each joint of the antennæ dark-brown near its base. A fuscous stripe on each side of the abdomen. Femora rather darker than the

\* Trans. N.Z. Inst., xxxii., pl. iii., fig. 2A.

tibiæ, with an indistinct paler band beyond the middle. Tibial spurs moderately long. Empodia large. Wings pale-yellowish, with five brown spots along the anterior border. Of these the second and third are somewhat horse-shoe-shaped. The fourth is the largest and occupies the stigmatic region. The fifth is close to the tip of the wing. The cross-veins are slightly bordered with brown. The second longitudinal vein is oblique and gently curved at its origin. The subcostal cross-vein is close to the tip of the auxiliary. The first submarginal cell is more than three-fourths of the length of the second. There are five posterior cells. The posterior cross-vein is nearly straight, and arises near the inner edge of the discal cell. Female: Length, 15–16 mm.; wing, 14 mm.

*Hab.* Wellington (Hudson).

This species comes nearest to *L. sinistra*, but is easily distinguished by the markings on the wings. I have named it after the late Mr. F. A. Skuse, who did so much good work towards getting the Australian *Tipulidæ* into order.

#### Family RHYPHIDÆ.

Genus RHYPHUS, Latreille, 1802.

One marginal and five posterior cells; a discal cell. Antennæ 16-jointed. Legs slender, moderately long; hind tibiæ with small apical spurs. Eyes contiguous in the male, separated in the female.

#### *Rhyphus notatus*, sp. nov.

Reddish-tawny, the flagellum of the antennæ dark-brown. Thorax with five brown stripes, the middle one shorter than the lateral pair; scutellum and metanotum brown. Tips of the femora and tibiæ brown. Halteres pale-yellowish. Wings pale brownish; the pterostigma and the tip, from the discal cell outwards, darkish-brown. A distinct round white spot in the submarginal cell, and another, touching it, in the first posterior cell. A brown spot in the anterior basal cell, and another on the chief cross-vein. Posterior cross-vein bordered with brown. Veins brown. Length, 6 mm.; wing, 6 mm.

*Hab.* Auckland (H. Suter); Wellington (G. V. Hudson); Christchurch (F. W. H.).

Easily distinguished from *R. novæ-zealandiæ* by the round white spot in the submarginal cell. The thorax and abdomen are lighter in the female than in the male.

#### Family MYCETOPHILIDÆ.

Sub-family *Sciarinæ*.

Genus SCIARA, Meigen, 1803.

Antennæ 16-jointed, longer in the male than in the female; the joints of the scapus cyathiform, almost bare;

those of the flagellum cylindrical, pubescent, sessile or subsessile; the last joint elliptical or elongate. Legs slender, the coxæ moderately elongated; tibiæ with small spurs. Wings large, microscopically hairy. Chief cross-vein in a line with the second section of the third longitudinal. Furcations of the fifth and sixth veins near the base of the wing.

**Sciara marcilla**, sp. nov.

*Male*.—Antennæ rather longer than the head and thorax; the first and second joints pale, the others brown, the joints sessile; eyes not contiguous; palpi dark-brown. Head and thorax dark-brown, the latter with a few black hairs. Abdomen nearly black, with short black hairs. Middle and hind coxæ yellow, the rest of the legs tawny. Halteres brown, with a yellow stalk. Wings colourless, the veins almost black, and bordered with fuscous. The first longitudinal vein joining the costa inside the base of the fork of the fourth longitudinal. Tips of the third longitudinal and posterior branch of the fourth at nearly equal distances from the apex of the wing. Costa continued some distance beyond the tip of the third longitudinal; origin of the third longitudinal situated very slightly beyond the middle of the first longitudinal. Length,  $1\frac{3}{4}$  mm.; wing,  $2\frac{1}{2}$  mm.

*Female*.—Head, thorax, and abdomen pitchy-black; the legs tawny. Wings colourless; the veins tawny. Length, 3 mm.; wing,  $2\frac{1}{2}$  mm. The rest as in the male.

*Hab.* Christchurch (F. W. H.).

This species belongs to the same section as *S. finitima*, Skuse, but the eyes are not contiguous above, the abdomen is darker, and the legs are lighter. *S. rufescens*, Hutton, from Dunedin, belongs to the section in which the first longitudinal vein joins the costa outside the base of the fork of the fourth longitudinal.

Genus TRICHOSIA, Winnertz, 1867.

Characters the same as *Sciara*, but the surface of the wings distinctly hairy.

**Trichosia remota**, sp. nov.

*Female*.—Uniform reddish-brown, the middle and hind coxæ lighter. Joints of the flagellum subsessile, about one and a half times as long as broad. Fore tarsi longer than the tibiæ; hind tibiæ only with short spurs. First longitudinal vein short, joining the costa at less than half the length of the wing, its tip lying inside the fork of the fourth longitudinal. Origin of the third longitudinal oblique; the chief cross-vein about the same length as the first section of the third longitudinal. The anterior branch of the fourth

longitudinal ends at the apex of the wing; the third longitudinal ends inside the tip of the posterior branch of the fourth. Anterior branch of the fifth is nearly straight; the posterior branch runs near the anterior for some distance and then turns abruptly down to meet the posterior margin. Length, 2 mm.; wing,  $2\frac{1}{2}$  mm.

*Hab.* Christchurch (F. W. H.).

### Family BIBIONIDÆ.

#### Genus DILOPHUS, Meigen, 1803.

Two basal cells; the third longitudinal vein simple; no discoidal cell. Head almost entirely occupied by the eyes in the male, very small and inclined in the female. Palpi 5-jointed; the third joint dilated. Antennæ cylindrical, inserted beneath the eyes; 11-jointed; the third joint a little larger than the others; the last four hardly distinct from each other. Eyes hairy in the male. Prothorax elevated, with two series of spines. Legs hairy; the fore femora thick and grooved; the tibiæ spined in front and terminated by a coronet of eight spines; tarsi with three pulvilli.

#### *Dilophus nigrostigma.*

*Bibio nigrostigma*, Walker, Cat. Dipt. in Brit. Mus., p. 121 (1848). *Dilophus spectabilis*, Nowicki, Mem. der Krakauer k.-k. Akad. d. Wissen., band 2, p. 10 (1875).

*Male*.—Black, shining, thinly clothed with black hairs. Wings brown, stigma and anterior veins black; the others tawny. Length,  $6\frac{1}{2}$ – $7\frac{1}{2}$  mm.; wing, 6 mm.

*Female*.—Thorax variegated with red and black; the fore coxæ and all the femora red; the latter with black tips. The rest as in the male. Length, 9 mm.; wing, 9 mm.

*Hab.* Auckland; Ashburton.

The legs are hairy in both sexes.

Variety *zealandicus*, Walker, Trans. Ent. Soc. of London, 1858, p. 235 (*Bibio*), differs only in the abdomen of the female being ferruginous beneath.

*Hab.* Auckland; Wellington; Chatham Islands.

If it should be proved that the variety *zealandicus* is of any importance, and not merely individual, we must then consider this species as dimorphic, for it is impossible, I think, to distinguish the males.

#### *Dilophus insolitus*, sp. nov.

*Male*.—Black, the legs brown and the eyes red; wings clear, with a brown stigma. Fore and middle femora inflated; the hind legs elongated, with the femora and tibiæ

clavate, metatarsus and second joint much swollen, the other joints vasiform. Neuration of the wing the same as in *D. nigrostigma*. Length, 5 mm.; wing, 5 mm.

*Female*.—Head and antennæ dark-brown, the rostrum brown below. Thorax fulvous. Abdomen brown. Legs fulvous, except the last three joints of the tarsi, which are brown. Wings slightly tinted with yellowish, iridescent, the stigma brown. Legs slender, the joints of the hind tarsi cylindrical. Length, 5 mm.; wing, 5 mm.

*Hab.* Christchurch (F. W. H.).

This species and the next belong to the same section as *D. varipes*, Skuse (Pro. Linn. Soc. N.S.W., vol. v., p. 636), but the colours are different.

#### **Dilophus segnis, sp. nov.**

*Male*.—Black, the femora and tibiæ piceous; eyes brown. Hind legs elongated, the femora nearly black; femur and tibia clavate, the metatarsus and second joint swollen. Fore femora slightly inflated; middle femora not inflated. Halteres black, with white stalks. Wings hyaline, the stigma blackish-brown. Length, 5 mm.; wing, 4 mm.

*Female*.—Head and eyes black; thorax, abdomen, and legs dark-brown. Hind legs rather elongated; the femur and tibia clavate, but the metatarsus not inflated. Wings tinged with brown, iridescent; the stigma blackish-brown. Length, 5 mm.; wing, 5 mm.

*Hab.* Christchurch (F. W. H.).

The legs in both this species and the last are nearly smooth.

#### Genus SCATOPSE, Geoffroy, 1764.

One basal cell; third longitudinal vein simple; three posterior cells, the second of which is petiolated. Antennæ cylindrical, 11-jointed, the last four hardly distinct; palpi concealed, of one distinct joint. Eyes reniform. Hind metatarsi shorter than the remaining joints together.

#### **Scatopse carbonaria, sp. nov.**

Entirely black, the veins of the wing fuscous. The first longitudinal vein rather more than half the length of the second. The third longitudinal about two-thirds of the length of the wing. The costa extends round the apex of the wing to the posterior branch of the fourth longitudinal. Fork of the fourth longitudinal situated inside the tip of the third longitudinal. Fifth longitudinal not reaching the border of the wing. The wing-fold, between the fourth and fifth veins, forked. Length,  $2\frac{1}{2}$  mm.; wing, 2 mm.

*Hab.* Christchurch (F. W. H.).



**Scatopse notata**, Linnæus (*Tipula*).

*S. longipennis*, Skuse, Pro. Linn. Soc. N.S.W., vol. iii., p. 1383, and vol. v., p. 638.

Black, with a white or yellowish mark on each side of the thorax behind the origin of the wing. First longitudinal less than one-third the length of the wing. The third longitudinal more than two-thirds the length of the wing.

*Hab.* In a letter to Mr. Skuse Baron Von Osten-Sacken says that he has received numerous specimens from New Zealand. No doubt it has been introduced from Europe.

## Family ASILIDÆ.

**Saropogon fascipes**, sp. nov.

General colour blackish-brown. Head and face yellow, antennæ brown, proboscis black. Bristles of the epistome yellow. Thorax with golden spots on the shoulders and on the sides of the metanotum. Scutellum golden. Legs dark-brown; the bases of the femora, knee-joints, the whole of the fore and middle tibiæ, and the basal half of the hind tibiæ brownish-yellow. Halteres pale-yellowish. Wings very pale-brownish, the tips clouded with fuscous. Male: Length, 14 mm.; wing, 10 mm.

*Hab.* Wellington (Hudson).

A very distinct species, easily distinguished from *S. antipodus* by its darker colour and banded legs.

## Family AGROMYZIDÆ.

**Milichia picata**, sp. nov.

Head silvery; the eyes large, black, nearly round. Second joint of the antennæ broadly oval, reddish-brown, broadly margined with white. Arista minutely pubescent. Bristles on the vertex and front as far as the antennæ. Oral vibrissæ present. Thorax black, with some irregular white marks on the sides; the dorsum with four rows of short setæ, two of which are on the pleuræ and two on the sides of the dorsum. Scutellum yellow, with two black setæ at the end. Abdomen velvety black, the fourth and fifth segments margined posteriorly with white, which is interrupted in the middle on the fifth; the sixth with white marks on the sides. Femora black, the knees tawny; the tibiæ yellow, with two black bands; tarsi pale brownish-yellow. The middle and hind tibiæ with a strong subapical bristle. Halteres white, the stalk pale-yellow. Wings pale-yellowish, with numerous dark-brown spots. Five spots in the marginal cell, nine or ten in the submarginal, eight in the first posterior, three in the second posterior, one or two in the discal cell. Posterior

cross-vein margined. Axillary cell entirely brown. Costa tawny; the veins black, but tawny at their bases. No bristles on the costa. Auxiliary vein completely joined to the first longitudinal; the first basal cell short. Distance between the cross-veins about three times the length of the posterior cross-vein. The posterior cross-vein distant about its own length from the margin. Membrane of the wing pubescent. Length,  $2\frac{1}{2}$  mm.; wing, 3 mm.

*Hab.* Christchurch (F. W. H.).

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ART. XVII.—*On a New Fossil Pecten from the Chatham Islands.*

By Captain F. W. HUTTON, F.R.S.

[*Read before the Philosophical Institute of Canterbury, 6th November, 1901.*]

Plate VIII.

THIS fine *Pecten* was brought from the Chatham Islands by Professor A. Dendy, and was given to me to describe.

***Pecten dendyi*, sp. nov.**

Shell equivalve, compressed, inequilateral, the posterior end produced. Ears rather unequal; the anterior larger, with five ribs, the posterior with two ribs. Byssal notch almost obsolete. Valves plicated, eight ridges on the left and nine on the right valve. Ridges narrower than the sinuses on the left valve, broader than the sinuses on the right valve. The whole surface, both ridges and sinuses, covered with fine radiating ribs, crossed by delicate growth-lines, which are almost obsolete on the right valve. Length, 2.6 in.; height, 2.3 in.; greatest thickness, 0.7 in.

*Locality.*—In a calcareous sandstone, Chatham Island.

This species differs from *P. burnetti* in being larger, inequilateral, more compressed, and in having more than seven folds. It is probably of Miocene age. The type is in the Canterbury Museum.

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